

## ABSTRACT

The invention relates to an X-ray imaging device for visualizing the blood flow in a coronary vascular tree of a patient. According to the invention a first set (1) of X-ray projection images of the vascular tree is recorded during various phases of the heart cycle with simultaneous recording of the ECG (2) of the patient. By means of a suitable program control, computer means (17) of the device according to the invention a reconstruction then follows of the three-dimensional structure of the vascular tree during the various phases of the heart cycle. The invention proposes, to determine the time-dependent concentration of contrast agent within the reconstructed three-dimensional structure of the vascular tree, that local image areas within the X-ray projection images of the second set (6) assigned to individual vascular segments (5, 8) are located in accordance with the spatial positions of the vascular segments (5, 8) in the relevant phase of the heart cycle. The concentration of contrast agent in the area of the vascular segments (5, 8) is then determined by evaluation of the X-ray absorption within the local image areas found.

15 Fig. 2